

Amendment
Application No. 10/629,806
Attorney Docket No. 030923

REMARKS

Claims 1, 2, 4, 9, 12-21, and 22-26 are pending in this application, of which claims 1, 16, 17, and 21 have been amended, and claims 22-26 have been added. The limitations of claims 3 and 8 have been incorporated into claims 1, 16, 17, 21 and 21, and claims 3 and 8 have been cancelled. Claim 13 was allowed.

(1) Claims 1-4, 8, 9, 12 and 14-21 were rejected under 35 U.S.C. §102(e) as being anticipated by Kanda et al. (U.S. Patent No. 6,555,607).

Claims 1, 16, 17, 21 and 21 have been amended to incorporate the limitations of claims 3.

Kanda's methoxy methylated melamine at col. 6, line 22 does not correspond to any of the claimed amine, amide, imide and quaternary ammonium. Thus, claims 1, 16, 17, 20 and 21 are not anticipated by Kanda et al. Withdrawal of the rejection is respectfully requested.

(2) Claims 1-4, 8, 9, 12 and 14-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ishibashi et al. (U.S. Patent No. 6,579,657) in view of Mizutani et al. (U.S. Publication No. 2002/0015909) or Yasunami et al. (U.S. Publication No, 2002/0028409).

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(i) Claims 1, 16, 17, 21 and 21 have been further amended to incorporate the limitations of claim 8.

(ii) The Examiner states that polyoxyethylene nonylphenyl ether disclosed by Ishibashi et al. and presently recited compounds are well known in the art as equivalent non-ionic surfactants as evidenced by Mizutani or Yasunami, and because the teaching of equivalency were known in the art at the time the invention was made, it would have been obvious to one skilled in the art to use the claimed nonionic surfactant as Ishibashi's non-ionic surfactant with a reasonable expectation of improving film-forming properties of Ishibashi's second resist material.

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(iii) However, neither Mizutani nor Yasunami teaches the equivalency of the polyoxyethylene nonylphenyl ether, polyoxylene alkyl ether, polyoxyethylene-polyoxypropylene condensation product, sorbitan fatty acid ester compound. Mizutani and Yasunami merely list suitable non-ionic surfactants for the invention of Mizutani and Yasunami with speculation. Neither Mizutani nor Yasunami teaches any example including any surfactant in their compositions. Neither Mizutani nor Yasunami disclose that the listed surfactants function in any compositions in the same way. Even if Mizutani and Yasunami list various nonionic surfactants, the mere listing does not mean that those surfactants can be used equally, and does mean that one can be replaceable with others.

(iv) The object of adding surfactants in the compositions disclosed by the references is to improve the film forming property of the compositions. On the other hand, the object of adding a surfactant in the resist pattern thickening material in the present invention is to improve the affinity between the material and a resist pattern on which the material is coated. The object of the present invention is different from those of Mizutani and Yasunami. The object of Ishibashi et al. is also different from those of Mizutani and Yasunami. There is no reasonable expectation of success that the nonionic surfactants of Mizutani or Yasunami improve Ishibashi's second resist.

(v) Also, in research of chemical compositions, one skilled in the art needs to carry out actual tests of a composition, to know that the composition effectively accomplish a specific purpose. Various compositions without actual test may be speculated, because compositions may include known chemical components. However, without actual tests, one skilled in the art cannot know the effect of the composition. Even if some components are disclosed in secondary references, one skilled in the art is not motivated to combine the teaching with the secondary references. In order to make the claim obvious under 35 U.S.C. §103(a), the references must provide teaching, motivation or suggestion to combine them. In this case, Ishibashi et al. do not teach the claimed nonionic surfactant, and the Examiner tries to combine Ishibashi et al. with Mizutani or Yasunami, because the Examiner considers that there is a reasonable expectation that

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the nonionic surfactants of Mizutani or Yasunami improve film-forming properties. However, this is also mere speculation. None of the cited reference provides any teaching, motivation or suggestion that the nonionic surfactants listed by Mizutani or Yasunami improve film-forming properties of Ishibashi's second resist. Examples of Ishibashi et al. do not actually include any surfactants. Please see Examples 1-22 of Ishibashi et al. There is no reasonable expectation of success that the nonionic surfactants of Mizutani or Yasunami improve film-forming properties of Ishibashi's second resist. Because the Examples of Ishibashi et al. do not actually include any surfactants, one skilled in the art would be rather motivated to exclude any surfactants regardless of Ishibashi's teachings at col. 9, lines 6-11, because further addition of surfactants increases costs.

(vi) Furthermore, the invention of Mizutani and Yasunami is different from the invention directed to the second resist by Ishibashi et al. The composition of Ishibashi's second resist includes a water-soluble resin as a main component (col. 7, lines 34-46). In this respect, the material of the present invention includes a water-soluble resin as a main component, as incorporated in the amendment in this response, and water. On the other hand, the materials taught by Mizutani or Yasunami include a fat-soluble resin as a main component, which is not a water-soluble resin. One skilled in the art recognizes that the effect of a surfactant in an aqueous system, like the present invention, is completely different from the non-aqueous system as taught by Mizutani or Yasunami. One skilled in the art does not consider that the nonionic surfactants

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taught for Mizutani's anti-reflective coating material composition or Yasunami's positive resist laminate are suitably used for Ishibashi's second resist. Thus, one skilled in the art is not motivated to combine Ishibashi et al. with Mizutani or Yasunami for improving the film-forming properties of Ishibashi's second resist. There is no reasonable expectation of success that the nonionic surfactants of Mizutani or Yasunami improve Ishibashi's second resist.

(vii) Thus, Applicants submit that claims 1, 16, 17, 20 and 21 are not obvious over the cited references. Reconsideration of the rejection is respectfully requested.

(3) Applicants also submit that newly added claims 22-26 are not obvious over the cited references. Claims 22-26 depend on claims 1, 16, 17, 20 and 21. In addition to the arguments above, Ishibashi's crosslinking agents at col. 15, lines 1-6 should be distinguishable from the limitations of claims 22-26. Thus, even a combination of the cited references does not make the invention recited in claims 22-26.

(4) In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

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If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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